

Reliability Issues in Coding Encounters in Primary Care Using an ICPC/ICD-10-based Controlled Clinical Terminology

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INTRODUCTION

Canada has stated that it will begin using ICD-10 as a standard for data reporting by 1999. ICPC has been shown to have reliability in coding internationally. ICPC is too small to be useful for clinical care, and ICD-10 too complex. ENCODE-FM^[1] was especially designed to record diagnoses and reasons for encounter at the point of service in primary care electronic records. It maps to ICPC and ICD-10 for data aggregation. It is the Ministry of Health of Ontario standard for use in the Community Health Centres in the province, and was developed for use in the College of Family Physicians of Canada national database.

Although the specific term chosen is important to the clinician who chooses it, reliability of CLASSIFICATION is critical if the electronic record is going to be able to give accurate information about patterns and trends in health care. In this study, ENCODE-FM was tested to determine the reliability of ICPC classification of clinical reasons for encounter. Reliability of ICD-10 will be a future analysis.

METHODS

One hundred randomly selected encounter forms from our family practice teaching unit listed 106 health problems. A sample of 5 physicians each coded all terms to ENCODE (automatically giving them ICPC and ICD-10 maps); indicated if the ENCODE term was clinically useful; and stated the acceptability of the match between the encounter form term and the ENCODE term.

RESULTS

TABLE 1: Reliability Of Coding

	Freq	Percent
5/5 ICPC codes identical	71	67.0%
4/5 ICPC codes identical	18	16.9%
3/5 ICPC codes identical	11	10.4%
< 3 ICPC codes identical	6	5.7%
Total	106	100%
Substantial concordance (4 or 5)	89	83.9%

Of the 106 encounter form terms, 89 (83.9%) of the ICPC terms were coded identically by 4 or 5 of

the 5 coders. (TABLE 1). Overall concordance was 89%. (417/530 terms coded).

There were no encounter form terms for which an ENCODE match could not be found, and 91.7% of terms were rated an excellent or good match. 96.7% of the ENCODE terms were felt to be clinically useful or "in between".

Inspection of the 17 terms with coding variability suggests that vagueness of the clinical encounter form terms, confusion by the coder between symptoms and diagnoses, and plain error accounted for all but 3.

DISCUSSION & CONCLUSIONS

Overall reliability of coding at the ICPC level using a small controlled clinical terminology for data entry was remarkably good. "Hit rates" and acceptability of matches were higher with ENCODE, than with larger terminologies^[2]. The qualitative analysis of the terms with coding variability suggests that reliability of coding would be enhanced by point of service data entry as opposed to third party coding, and by specific training in the use of standardized terminologies.

Clinical terms need clinical feedback. Intermediate and third party imposition of coded data collection without clinical relevance will lead invariably to analysis of patterns of care which do not reflect the actual practice of primary care medicine, and the mismeasurement of primary care providers.

REFERENCES

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² Mullins HC, Scanland PM et. al. The Efficacy of SNOMED, Read Codes and UMLS in Coding Ambulatory Family Practice Clinical Records. J. Amer. Medical Informatics Assoc., Symposium Supplement 1995, Vol 20: 135-139. 1996.